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# Operator's Licence Information



For Motorcycles, Mopeds  
and Power bicycles

A supplement to the Basic Licence Driver's Handbook

**Alberta**  
INFRASTRUCTURE AND  
TRANSPORTATION



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## Introduction

### A message from Alberta Infrastructure and Transportation

Riding a motorcycle is a high risk activity. This is because motorcycles have the disadvantage of being less stable, smaller and more vulnerable in a crash than other vehicles on the road. New riders are at the greatest risk of having a collision because they are unfamiliar with the controls and handling characteristics of motorcycles.

Even if you are an experienced automobile driver, when learning to ride a motorcycle, be aware that you are once again a beginner. Always ride with an attitude of safety. Try to anticipate and avoid dangerous situations by riding tactically. Being involved in a collision can mean a loss of income, health and possibly a life.

This handbook is a supplement to the *Basic Licence Driver's Handbook*, which is available at all Alberta Registry Agent offices. It is also online at [www.infra.gov.ab.ca](http://www.infra.gov.ab.ca) (under Drivers Info / Traffic Safety). The *Basic Licence Driver's Handbook* outlines the rules of the road, which apply to all road users including motorcyclists. The *Operator's Licence Information for Motorcycles, Mopeds and Power bicycles* contains specific information about riding principles and safe riding tips. These two books contain the information necessary to help beginner riders prepare for the knowledge and practical tests required for obtaining a motorcycle licence.

**Ride to live.**

Alberta Infrastructure and Transportation

DATE: March 2005

Alberta Infrastructure and Transportation recommends that all beginner riders seek professional training from a licensed motorcycle training school.

**If further information is required regarding Driver Training Schools or the Driver Examination process, please contact a Driver Programs Administrator at:**

Edmonton (780) 427-8901 or Calgary (403) 297-6679

For toll-free service anywhere in Alberta, dial 310-0000.

**All handbooks, knowledge, testing and licensing services are available from any Registry Agent office. Practical skill and road tests are available through independent driver examiners. To locate these services, refer to your local telephone yellow or Super Pages.**

This handbook is a guide only and has no legal authority. The laws that apply to driving a vehicle can be found in the *Traffic Safety Act* and its related Regulation. This information is available from:

Queen's Printer Bookstore

Park Plaza Building

10611 – 98 Avenue

Edmonton, Alberta

T5K 2P7

Telephone: (780) 427-4952

Queen's Printer Bookstore

Main Floor, McDougall Centre

455 – 6 Street S.W.

Calgary, Alberta

T2P 4E8

Telephone: (403) 297-6251

For toll-free service anywhere in Alberta, dial 310-0000.

Web site: [www.qp.gov.ab.ca/catalogue/index.cfm](http://www.qp.gov.ab.ca/catalogue/index.cfm)



# Chapter 1

## Motorcycle Licensing and Operator Information

## Motorcycle Licensing and Operator Information

### Learning to ride

A Class 6 licence is required to operate a motorcycle on a public roadway.

When learning to ride a motorcycle, a person must:

- be at least 16 years old
- hold a valid operator's licence, this can be a Class 7 (learner's)
- have an instructor 18 years of age or older with a valid Class 6 non-Graduated Driver's Licence (GDL) either seated on the bike, following on another motorcycle, or in another motor vehicle.

Probationary riders in the GDL program are subject to the following conditions as well:

- if they hold a Class 7 licence, they may not ride at night, (night time for GDL motorcycle riders is defined as from one hour after sunset or 12:00 midnight, whichever is earlier, and extends until one hour before sunrise or 5 A.M., whichever is later)
- have a zero alcohol level
- they will be suspended at eight demerit points than fully licensed drivers at 15.



## Motorcycle licensing Class 6

### Knowledge test

There is a knowledge test for the Class 6 licence. The questions are based on this handbook and the *Basic Licence Driver's Handbook* and test one's knowledge of safe-driving practices, rules of the road, and traffic control signs and signals as they relate to motorcycles.

A fee is charged for each test that is taken.

### Practical test

There are two types of practical tests available in Alberta, depending on the testing locations.

The practical test includes a road test or an on-lot skill test. A person who has a Class 7 licence is required to take a road test. A person who has a Class 5 licence or higher, may take either the road test or an on-lot skills test if on-lot skill facilities are available. The individual being tested must provide a motorcycle for the practical test. The examiner will check your motorcycle before the test. If it is not mechanically safe, the examiner will refuse the test.

## On-lot test

The on-lot skill test is conducted at an approved facility free from other traffic. The examiner will explain, in advance, what is required.

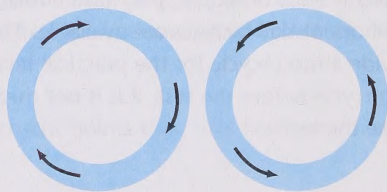
The test will include eight skill manoeuvres:

- a test of balance and control by weaving between markers (serpentine)
- riding slowly in a straight line
- starting on a hill
- collision avoidance
- shifting around curves
- emergency braking
- riding in a circle
- making left and right hand turns.

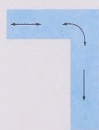
## Motorcycle on-lot skill test diagrams



Serpentine



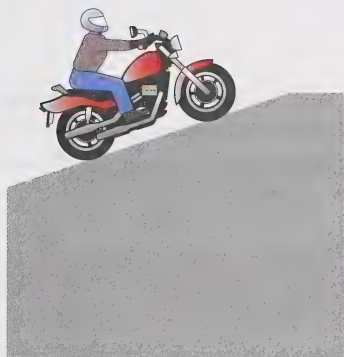
Circle



Left /right turns  
and shifting



Curve and  
shifting



Hill start



Brake test

Collision  
avoidance

Balance



## Road test

The examiner will follow the motorcyclist in another vehicle. Directions will be given to the rider in advance or during the test by way of a one-way radio.

The road test will include:

- a basic equipment check
- a three manoeuvre skill test which will be described by the examiner
- following the rules of the road, proper signaling, correct left and right turns, balance, road position, intersection judgement and speed control.

A fee is charged for each practical test taken.

## Motorcycle operator information

**Motorcycles are defined as follows in the: *Traffic Safety Act*.**

1(w): “motor cycle” means a motor vehicle, other than a moped, that is mounted on 2 or 3 wheels and includes those motor vehicles known in the automotive trade as motor cycles and scooters.

The following are also important definitions.

**Cycle** – “cycle” means a bicycle, power bicycle, motor cycle or moped.

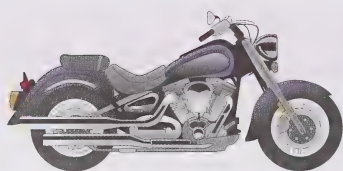
**Motor vehicle** – “motor vehicle” means (i) a vehicle propelled by any power other than muscular power, or (ii) a moped, but does not include a bicycle, a power bicycle, an aircraft, an implement of husbandry or a motor vehicle that runs only on rails.

**Vehicle** – “vehicle”, means a device in, on or by which a person or thing may be transported or drawn on a highway and includes a combination of vehicles but does not include a mobility aid.

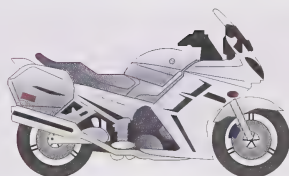
## Requirements to operate a motorcycle

<b>Minimum age</b>	A person must be a minimum of 16 years old before operating a motorcycle with a Class 7 licence.
<b>Operator licence</b>	Yes. Class 6.
<b>Registration</b>	Yes. A person shall not operate a motor vehicle on a highway unless there is a subsisting certificate of registration issued for that vehicle.
<b>Insurance</b>	Yes. Insurance is required for motor vehicles.
<b>Helmet</b>	Yes. For the rider and passenger. See chapter two for helmet standards.
<b>Special laws</b>	<p>May only carry as many passengers as the vehicle is designed for.</p> <p>Passengers must ride on a seat that is designed for passengers and use the foot rests.</p> <p>May not ride beside another cycle in same lane.</p>

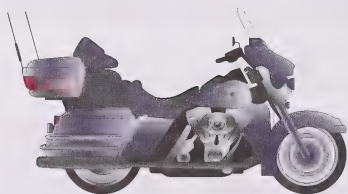
## Some types of motorcycles



Cruiser



Sport Touring

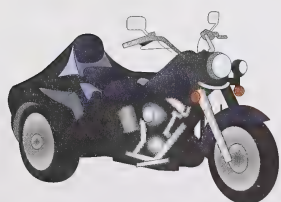


Touring



Dual Purpose





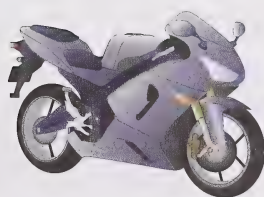
Trike



Scooter



Adventure Tour



Sport Bike

## Other two-wheel vehicle operator information

### Moped



**A moped is defined as follows in the:**

***Use of Highway and Rules of the Road Regulation.***

- 1 (o): “moped” means a vehicle, regardless of the number of wheels it has, that
- (i) may be propelled:
    - (A) by human muscular power,
    - (B) by mechanical power, or
    - (C) partly by human muscular power and partly by mechanical power,
  - (ii) has a motor that is driven by electricity or has an engine with a displacement of not more than 50 cubic centimetres,
  - (iii) does not have a hand-operated or foot-operated clutch or gearbox driven by the motor that transfers power to the driven wheel,
  - (iv) does not have sufficient power to attain a speed greater than 50 kilometres per hour on level ground within a distance of 2 kilometres from a standing start, and
  - (v) weighs more than 35 kilograms but less than 55 kilograms, but does not include a bicycle or power bicycle.

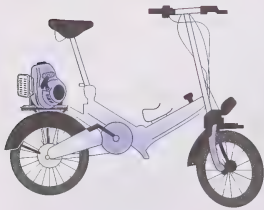
**Note:** Some vehicles may appear to be mopeds. However, if they exceed the weight of 55 kg or the speed of 50 km/h, they do not fall into the moped classification and are, instead, considered motorcycles.

## Requirements to operate a moped

<b>Minimum age</b>	<p>14 years of age, since this is the age for issuing a Learner's licence.</p> <p>A Class 7 Learner's licence is considered an operator's licence when the holder is operating a moped. Therefore, supervision is not required.</p>
<b>Operator's licence</b>	Yes. Class 7 minimum. A licence is required for motor vehicles and the motor vehicle definition includes mopeds.
<b>Registration</b>	Yes. A person shall not operate a motor vehicle on a highway unless there is a subsisting certificate of registration issued for that vehicle. The motor vehicle definition includes mopeds.
<b>Insurance</b>	Yes. Insurance is required for a motor vehicle and the motor vehicle definition includes mopeds.
<b>Helmet</b>	Yes. See chapter two for motorcycle helmet standards.
<b>Special laws</b>	<p>Mopeds must be operated as far to right side of highway as practical, or on the shoulder of a highway if available. May use the left lane of one-way in an urban area.</p> <p>An operator may not carry passengers if under 16 years of age.</p>



## Power bicycle



A power bicycle is defined as follows in the:  
*Use of Highway and Rules of the Road Regulation.*

- 1(o): “power bicycle” means a vehicle that
- (i) may be propelled
    - (A) by human muscular power,
    - (B) by mechanical power, or
    - (C) partly by human muscular power and partly by mechanical power,
  - (ii) is fitted with pedals that are continually operable to propel it,
  - (iii) has a motor that produces not more than 750 watts and that is driven by electricity or has an engine with a displacement of not more than 50 cubic centimetres,
  - (iv) does not have a hand-operated or foot-operated clutch or gearbox driven by the motor that transfers power to the driven wheel,
  - (v) does not have sufficient power to enable it to attain a speed greater than 35 kilometres per hour on level ground within a distance of 2 kilometres from a standing start, and
  - (vi) weighs not more than 35 kilograms.

**Note:** Some vehicles may appear to be power bicycles. However, if they exceed the weight of 35 kg or the speed of 35 km/h, then they do not fall into the power bike classification and are, instead, considered mopeds.

## Requirements to operate a power bicycle

<b>Minimum age</b>	<p>A person who is less than 12 years old shall not drive a power bicycle on a highway.</p> <p>A person who is less than 18 years old shall not drive a power bicycle on a highway unless the person carries the consent of a parent or guardian in a form and manner approved by the Registrar or holds a subsisting operator's licence.</p>
<b>Operator's licence</b>	No. A licence is required for a motor vehicle, and the definition of motor vehicle excludes power bicycles.
<b>Registration</b>	No. A person shall not operate a motor vehicle on a highway unless there is a subsisting certificate of registration issued in respect of that vehicle. The definition of a motor vehicle excludes power bicycles.
<b>Insurance</b>	No. Insurance is required for a motor vehicle. The definition of a motor vehicle excludes power bicycles.
<b>Helmet</b>	Yes. See chapter two for motorcycle helmet standards.
<b>Special laws</b>	<p>Power bicycles must operate as far to right side of highway as practical, or on the shoulder of highway if available. May use left lane of one-way in an urban area.</p> <p>An operator may not carry passengers if under 16 years of age.</p>

### Notes:

[illegible]



## Chapter 2

### Preparing to Ride



## Preparing to Ride

### Wear the proper gear

#### Motorcycle helmets

In Alberta, operators and passengers of motorcycles, mopeds or power bicycles must wear an approved safety helmet that is securely fastened to the person's head.

#### Selecting a helmet

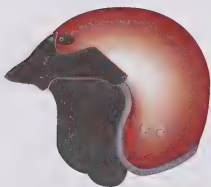
There are three types of helmets that provide different levels of coverage.

#### Full coverage (full face)



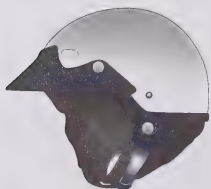
- provides the best head protection
- has a visor for eye protection
- has the greatest structural integrity
- provides the greatest protection from the weather
- protects the ears and base of the skull
- protects the lower face and chin.

#### Three-quarter coverage (open face)



- provides good head protection
- accepts a visor for protection from the weather and for the eyes
- protects the ears and base of the skull.

#### One-half coverage (shorty)



- provides limited head protection.

When choosing a helmet, wear it for five to ten minutes. This will let you know if the helmet will become uncomfortable before buying it.

Also, be sure it fits properly all the way around. Fasten it securely on your head when you ride. If it is possible to remove the helmet without loosening the chin strap then the helmet is not safe.

### **Safety helmet standards**

An approved helmet will have a sticker to show that it meets current safety standards. According to the *Vehicle Equipment Regulation 322/2002, section 93*:

- (1) *A safety helmet intended for the use of an operator or a passenger of a cycle must meet one or more of the standards for motorcycle safety helmets adopted under subsection (3) in effect on the date on which it was manufactured.*
- (2) *The following are adopted and apply to safety helmets in accordance with subsection (1):*
  - (a) *CSA Standard CAN3-D230-M85;*
  - (b) *U.S.A. Federal Motor Vehicle Safety Standard FMVSS 218 Motorcycle Helmets 1993 OCT;*
  - (c) *U.S.A. Federal Motor Vehicle Safety Standards FMVSS 218 Motorcycle Helmets 2000 OCT;*
  - (d) *British Standards Institute Standard BSI-B6658 – 1995;*
  - (e) *Snell Memorial Foundation M2000.*
- (3) *A safety helmet must have the mark or label CSA, DOT or BSI or the mark or label of the organization in subsection (2)(e) indicating that the safety helmet met one or more of the specifications required on the date on which it was manufactured.*
- (4) *No person shall buy, sell or offer for sale a safety helmet intended for the use of operators or passengers of cycles unless it complies with subsections (1) to (3).*

Manufacturers recommend that a helmet be replaced after it has been involved in a collision. Do not buy a used helmet, since there is no way to determine if it has been in a collision or damaged by other means. Follow the manufacturer's recommendations for the usable life expectancy of the helmet. Do not modify a helmet in any way that would reduce its effectiveness and certification. For example, do not paint it, clean it with a solvent or install a microphone and speakers.

### Protecting your eyes and face

A plastic shatter-resistant face shield will help protect your face from wind, dust, dirt, rain, insects and rocks thrown up from other vehicles. These problems are distracting, painful and dangerous. If you have to deal with the distractions, you may not be able to give your full attention to the road. Eyeglasses or sunglasses may not provide adequate protection for your eyes. There are a number of motorcycle eyewear products suitable for riding that provide additional protection.

Most motorcycle windshields do not give adequate protection for your eyes or face. The best protection is a full-face helmet with a built-in face shield.

If you choose a helmet that does not have full-face protection, you should consider eyewear that is specifically designed for motorcycle riding to protect your eyes. If you wear corrective glasses, you should wear goggles that go over the glasses for protection.

To be effective, eye or face shield protection must:

- be free of scratches
- be resistant to penetration
- give a clear view to either side
- fasten securely so it does not blow off
- permit enough room for eyeglasses or sunglasses if needed.



Tinted eye protection should not be worn at night or any other time when the light conditions are poor. If tinted eye protection is used, remember to carry a clear shield for reduced visibility.

## Clothing

Clothing designed for motorcycle riders provides the best protection from scraps and cuts during a collision. It also protects from weather and debris. Clothing should be worn in layers so that a rider can adjust to the changing weather conditions.

### Jackets and pants

Jackets and pants should cover your arms and legs completely. They should be snug enough to not flap in the wind, yet loose enough to move freely and cover your layered clothing. Sturdy synthetic textiles or motorcycle thickness leather provides the best protection. Jeans give only minimum protection and will wear through quickly when skidding on the road surface in the event of a collision at highway speeds. Riding in lightweight pants, shorts or lightweight nylon material is not recommended.

Choose bright coloured clothing that will help you to be visible when riding. Reflective strips on your motorcycle, helmet and jacket will make you more visible at night.

In cold or wet weather, proper clothing should help keep you warm and dry. A cold weather jacket designed for motorcycle riding should resist wind and fit snugly at the neck and wrists. A good quality motorcycle rainsuit will not balloon or tear apart at highway speeds. It should have long sleeves, pants and extra room to fit comfortably over your regular riding clothes.



## Hypothermia

Hypothermia occurs when the body loses internal heat due to cold or wind chill conditions. Motorcyclists are especially at risk for rapid chilling, which will lead to a slowing of reflexes and response time. Hypothermia can also reduce a rider's ability to concentrate and react to changing traffic conditions. Even in warm weather, the constant exposure to wind when riding may cause hypothermia. Proper riding gear such as a windproof jacket and insulated layers of clothing are essential.

## Hyperthermia, dehydration and hot weather

Hyperthermia is when the body temperature rises markedly. It can occur with overexposure to high temperatures in the environment. To avoid overheating, a rider should stay well hydrated by drinking plenty of water prior to and during the ride when taking breaks. Modern motorcycle specific riding coats and helmets may come with venting, which will allow for some airflow. Riding without a coat will only make the effects of hyperthermia worse. Plan for frequent water breaks and rest periods that are directly out of the sunlight where possible.

In very hot weather, hot wind passing over exposed skin will quickly dry the moisture out of your body causing dehydration. Wearing a proper jacket will reduce the chances of becoming dehydrated.

## Boots or shoes

Your boots or shoes should cover your ankles and be made of leather or other synthetic material. The soles should be made of durable slip resistant material that will provide enough grip to keep your feet from slipping and you from losing control of the motorcycle. Proper footwear should also allow you to operate the foot controls effectively. Keep the heels short so they do not catch on rough surfaces or the controls. Tuck the laces in so that they do not catch on the motorcycle.

## Gloves

Wear gloves that allow you to grip the controls and protect your hands in a crash. It is best to use gloves that are designed for motorcycle riding. The gloves should be made of leather or similar durable material, be comfortable, and flexible. They should cover your wrists and overlap the sleeves of the jacket. Cold weather and water resistant gloves are also available for cooler weather.

## The Rider

Unlike the driver of a car, you have no seat belt or metal around you for protection in a collision. Always drive with extreme care. You cannot be sure that other drivers will see you or that they will yield the right-of-way to you when required. A large number of motorcycle collisions happen to riders with just a few months of riding experience. You should get the experience necessary under the best conditions and in light traffic.

To reduce the risk of being in a collision, do the following:

- Be visible to the other motorists by wearing proper clothing
- Make yourself aware of your surroundings and make other motorists aware of you
- Ride in the best lane and lane position possible to see and be seen
- Use the proper electrical signals and brake lights, (during daylight hours the use of hand signals helps to increase the likelihood that you will be seen)
- Maintain an adequate space cushion when following another vehicle, being followed, and when passing or being passed
- Scan your path of travel at least 12 seconds ahead
- Identify and separate multiple hazards
- Be prepared to act by remaining alert and knowing how to carry out proper collision-avoidance moves.

Never ride after drinking alcohol or taking drugs, including many prescription and over-the-counter drugs. These may affect your abilities to judge and react. Do not drive when tired or under stress, and avoid becoming dehydrated.

### Cell phones

Cell phones are convenient but can divert attention away from the riding task. Pull over, when safe to do, to the side of the road when using a cell phone, including a hands free phone. A good practice is to check for messages each time you take a break from riding.



A photograph of a winding asphalt road through a dense forest, with a purple color overlay. The road curves from the bottom left towards the center. Tall trees line both sides of the road, and the background is slightly hazy. In the top right corner, there is a purple circle containing the number 3. On the left side, there is a vertical line with an upward-pointing arrow at the top and a downward-pointing arrow at the bottom, intersected by a horizontal line.

3

## Chapter 3

# Knowing Your Motorcycle

## Knowing Your Motorcycle

### Choosing the right motorcycle

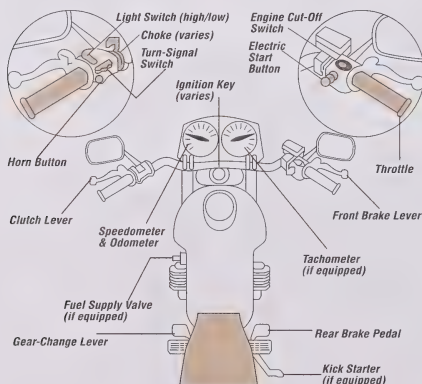
When choosing a motorcycle, a rider should consider what type of riding will be done, as well as the level of experience and skill. It is important that a motorcycle fits a rider properly. The rider should be able to:

- have both feet flat on the ground as the motorcycle is straddled
- push, park and place the motorcycle on its stand without straining
- reach and operate all controls without straining or stretching.

Know what type of riding you plan to do and choose a motorcycle that is designed for that purpose and your budget.

### Get familiar with the motorcycle controls

You should be completely familiar with the motorcycle controls before you take it out on the street. This is particularly important when riding an unfamiliar motorcycle. Be sure to review the owner's manual.



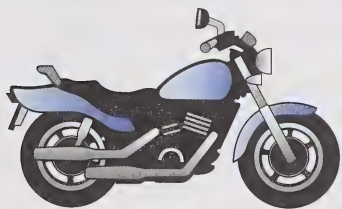
**Note:** Refer to the owner's manual for the control locations of a specific motorcycle.

Before riding a motorcycle, do the following:

- Be familiar with all the controls and be able to operate them without having to look.
- Know the motorcycle's gear pattern, work the throttle, work the clutch and brakes a few times before you start riding.

### Motorcycle Pre-trip Inspection

You should make a complete pre-trip inspection of your motorcycle before every ride. The following information will provide the essentials for an inspection, but you may want to develop your own way of inspecting a motorcycle.



#### Tires

- ☐ Air pressure – check that the air pressure in the tires is correct by referring to the owner's manual. The information may also be on the tire.
- ☐ Tread – check for uneven or worn tread. These can cause a rider to lose traction control.
- ☐ General wear – inspect for cuts, bulges, damage to the sidewalls and for objects embedded in the tires.

### Wheels

- ☐ Wire spoke wheels – check for damaged, missing or broken spokes, as well as spoke tension.
- ☐ Mag wheels – check for damage or cracks.
- ☐ Rims – check for damage.

### Drive system

- ☐ Chain – check for tension and lubrication.
- ☐ Belt – check for tension and wear.
- ☐ Shaft – check for oil leaks.

### Electrical

- ☐ Lights – check that the taillight and that both high and low beam headlights work. The headlight should come on when the motor is running.
- ☐ Brake light – check that both brake controls activate the light.
- ☐ Turn signals – test both signals by turning them on and off.
- ☐ Horn – try the horn to see if it is working.
- ☐ Engine cut-off switch – check that it works.
- ☐ Instrument lights – check they are working properly.
- ☐ Safety interlock switch on the side stand – check that it is working.

### Fluids

- ☐ Oil – check the oil level.
- ☐ Coolant – if the motorcycle engine is liquid cooled, check the fluid level, and check the hoses for cracks.
- ☐ Fuel – check that there is enough fuel for the trip.
- ☐ Leaks – check that there are no leaks on the ground under the motorcycle.
- ☐ Brakes – check that the brake fluid level is adequate and check hoses for leaks or cracks.
- ☐ Differential – check that the fluid level is adequate.



### Clutch and Throttle

- ❑ Clutch – when squeezing the clutch lever, check that the cable moves freely and feels tight. If you have a hydraulic clutch, check for adequate fluid level.
- ❑ Throttle – check that it returns to the closed position easily, without assistance from the rider.

### Mirrors

- ❑ Mirrors – make sure both mirrors are clean, properly adjusted and securely fastened. Adjust each mirror so you can see the lane behind, and as much as possible of the other lanes on the road next to you. When properly adjusted, a mirror may show the edge of your arm or shoulder. Remember that objects in your mirrors may be closer than they look. Never rely entirely on your mirrors. Shoulder check to see the traffic behind and to the side of you.

### Brakes

- ❑ Brakes – try both front and rear brakes one at a time, be sure each one feels firm and holds the motorcycle when the brake is fully applied.

### Kickstand

- ❑ Center stand – check for cracks and bends, stand should be secure when retracted.
- ❑ Side stand – check for cracks and bends, stand should be secure when retracted.

3

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# 4

## Chapter 4

### Keeping Control



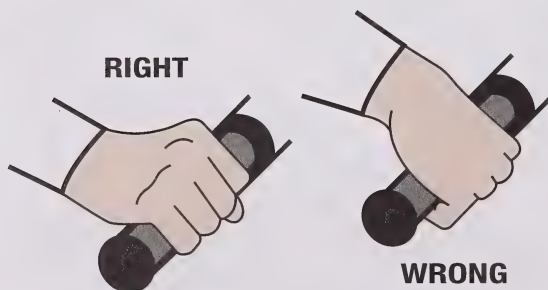
## Keeping Control

A motorcycle is a unique vehicle. It requires both skill and a proper attitude from the rider if it is to be ridden safely. Each motorcycle is different and will respond differently to rider inputs.

Practice proper motorcycle techniques, including slow speed skills, countersteering, braking and swerving in a safe place.

## Position of the Rider

- **Seat** – sit far enough forward so that your arms are slightly bent when holding the handle grips. This will allow you to turn the handlebars without stretching or moving your shoulders.
- **Hands** – start with your right wrist as close to flat as possible. Hold the handle grips lightly but firmly. Use a hand grip that will prevent you from accidentally using too much throttle, but allows you access to all the controls. Choose a grip for your motorcycle and physical size.





- **Balance** – to help keep your balance, hold your knees with a light contact against the gas tank and look in the direction you want to go. Do not look down.
- **Feet** – should be firmly on the footpegs immediately beside the brake and shift lever at all times when the motorcycle is moving. Do not point your feet down. If they drop down, they may get caught between the road and the footpegs. You need your feet for effective braking and gear selection. Do not drag your feet or rest them on the controls.

## Starting

It is best for beginners to practice starts and stops in a safe, traffic-free area. Smooth coordination is required between the clutch and the throttle. Too much throttle can cause a rider to lose control, too little will cause the engine to stall.

### Before starting out check the following:

- If the motorcycle is equipped with an anti-theft lock be sure it is released allowing the handle bars to move freely from left to right.
- The mirrors are adjusted properly.
- The fuel is turned on.
- The engine cut-off switch is set to the run position.
- The engine is warmed up and running smoothly.
- The lights are on.

Take the bike off the stand before allowing a passenger to get on. Always check that your footing is secure so that you do not lose your balance before taking the bike off the stand.

# 4

## **Make sure the path in front is clear of:**

- children
- pedestrians
- other traffic
- any obstacles.

## **Before pulling away, make sure it is safe:**

- Look over both shoulders to check the blind spots.
- Make sure other road users see you. Many drivers have trouble seeing motorcycles and may drive in front of them. Most drivers involved in a collision with a motorcycle say they never saw the motorcycle. Use your signals and yield to other traffic when entering the traffic flow.

## **Manual (standard) transmissions**

Shifting gears on a motorcycle equipped with a manual transmission is a skill that requires considerable practice. The rider must learn to change gears using the left foot to operate the gearshift lever and the left hand to operate the clutch.

The engine provides power. The clutch is used to transfer power, or separate power, from the engine to the rear wheel. When the clutch lever is released, the connection is engaged and the power of the engine is transferred to the drive wheel of the motorcycle.

When the clutch lever is squeezed, the connection is disengaged. This prevents the transfer of engine power to the drive wheel. It is while the connection is disengaged that the rider changes gears.

As the rider begins to release the clutch lever, the connection will begin to engage again. This can be felt before the clutch lever is fully released. The point where this first occurs is called the “friction zone.”

It is in this friction zone that the rider must coordinate the slow release of the clutch lever while gently using the throttle to achieve a smooth start and prevent engine stalling.

When riding, it is important that the proper gear is selected so the engine does not lug, move the vehicle in rough, bumpy fashion, or race, revs the engine but does not move the motorcycle effectively. Once the motorcycle is in motion and the rider has completed shifting to the selected gear, the hand must be removed from the clutch lever and returned to the hand grip.

## Shifting gears

Smooth and timely gear shifting takes practice but, once learned, will help you maintain control. The owner’s manual will explain the number of gears and the optimum speed for each gear. Start out in first gear and gradually shift up to higher gears as the speed increases. Try to maintain a speed that is appropriate for the conditions. Remember that the posted speed limit is the maximum for ideal road and weather conditions.

Remember to always be in the correct gear for the speed at which you are travelling. You should also be in a gear that will make it possible to accelerate away from any hazard.

There is more to shifting gears than simply getting the motorcycle to accelerate smoothly.

### Shifting to a higher gear (upshifting)

- Accelerate in first gear.
- Turn the throttle off while squeezing the clutch lever.
- Place your foot under the gear change lever and move it upwards to select the second gear.
- Slowly release the clutch and gently apply the throttle.

A smooth shift to the next gear is the result of a coordinated clutch release with the application of a small amount of throttle.

### Downshifting one or more gears

- Turn the throttle off while squeezing the clutch lever.
- Place your foot on top of the gear change lever. Firmly push the lever down as far as it will go and then release.
- Slowly release the clutch and gently apply the throttle.

It is important to shift down through each gear when slowing down or stopping. However, it is possible to come to a complete stop without releasing the clutch and shifting down to first gear.

Make sure the motorcycle is going slowly enough when shifting to a lower gear. If the motorcycle is going too fast, it will lurch and the rear wheel may lock. This is more likely to happen under adverse road and weather conditions such as rain and loose gravel. Under these conditions you may need to slow down enough to shift safely. Be aware that any sudden deceleration by downshifting without braking can surprise the motorist behind. This is because your taillight will not light to give warning.

### Turning corners

It is best to shift gears before entering a turn. The entry speed of a turn should be a speed where you can gently accelerate through the turn. Any sudden change in power to the rear wheel can affect balance and exceed the amount of traction available. This can cause the wheel to lock, spin or create a skid.

### Starting on an uphill grade

It is more difficult to get a motorcycle moving on an uphill grade than it is on flat ground. There is a greater danger of rolling backward into someone or stalling the engine. Here is the best way to do it.

- With the engine running, use the front brake to hold the motorcycle and shift into first gear.
- Change to the foot brake to hold the motorcycle while opening the throttle slightly with your right hand.
- Slowly release the clutch until reaching the friction zone then release the rear brake while gradually applying more power with the throttle. Avoid releasing the clutch too quickly since it may cause the engine to stall, or cause the front wheel to come off the road resulting in a loss of control.



## Traction

Traction is the amount of grip between your tires and the road surface. Loss of traction can have disastrous results for the rider of a two-wheeled vehicle.

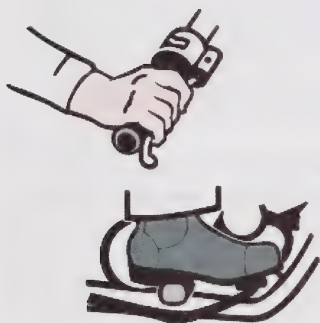
Some of the most important factors affecting the amount of traction available are:

- tire compounds – softer compounds provide greater traction at the expense of a shorter tire life
- tire pressure – maintain pressure according to the manufacturer's specifications
- tire tread patterns – select tires that are appropriate for the conditions you expect to encounter
- road surfaces – asphalt (wet or dry), concrete (wet or dry), metal, snow and ice, gravel, sand, painted lines, various types of road debris such as antifreeze, oil, leaves, holes, frost cracks and spilled materials.

Be aware that roads are most slippery during the first few minutes of rain. The motorcyclist should scan the road surface ahead to determine road condition. Braking, cornering and acceleration require the most traction. The rider's demand for traction will determine how the traction is used. A rider should always be aware that there is only a certain amount of traction available. If the demand exceeds the traction available, the result will be a loss of control.

## Braking and Stopping

A majority of motorcycles have two brakes which operate independently. In most cases, there is the hand-operated front brake and the foot-operated rear brake. When stopping, apply both front and rear brakes at the same time. The front brake provides about 70% of a bike's braking power. It is best to apply the brakes by gradually increasing pressure. This progressive braking makes it possible to control the amount of braking force needed to achieve threshold braking.



Some motorcycles are equipped with integrated braking systems that link front and rear brake operation together. Anti-lock brake systems are also available on some models. If your bike has either of these systems, check your owner's manual for instruction on the best way to use the brakes.

### Some braking tips

- Make a smooth downshift to avoid a rear wheel skid. Downshifting when braking will allow you to use engine compression to help the motorcycle to slow down, but it will not activate the brake light. This will mean that motorists behind you will not be warned that you are braking.
- Use extra caution when braking in a turn, and on slippery or rough roads. When possible, avoid braking and turning at the same time.
- Practice controlled stops in a safe, traffic-free area.
- Learn to apply even braking force and acquire a feeling for when your tires are about to skid. This is called threshold braking.
- You can apply both brakes in a curve after straightening the motorcycle. When doing this, use caution and take care not to lock either wheel, especially on slippery road surfaces.
- Shift to first gear while stopping so you can move forward quickly if necessary.
- Keep at least one brake firmly applied while stopped.
- Riding with your brake partially applied activates the brake light. This may confuse other drivers, and cause unnecessary wear on the brakes.
- When applying brakes in an emergency, use both brakes to the maximum effort but do not lock the wheels. Over-braking one or both wheels is one of the most common causes of skidding.
- If the front wheel locks, release the brake immediately. If the rear wheel locks when travelling in a straight line, it is safe to slowly release the brake. If the bike is not travelling in a straight line, then it is best to keep the rear brake applied until stopped.
- If the skid is caused by over-acceleration, ease up on the throttle and steer in the direction you want the front of the bike to go.

## Stopping distance

Not all riders know how much time or distance it takes to fully stop a motorcycle. As a result, they may make errors in judgement that can lead to a collision. Three factors determine how long it takes to stop. These factors are perception time, reaction time, and braking time.

### 1. Perception time

Perception time is how long it takes for your brain to recognize a situation and understand the need to stop. This can take about three-quarters of a second, depending on the rider. Less experienced riders are often slower to recognize a danger. The time this takes vary greatly depending on the rider's visual search skills, level of attention, decision making abilities, degree of fatigue, and use of alcohol or other drugs. Perception distance is how far a motorcycle travels during this time.

### 2. Reaction time

Reaction time is the time it takes to physically react and to start braking. The average reaction time is three-quarters of a second. Reaction distance is how far a motorcycle travels during this time.

### 3. Braking time

Braking time is how long it takes a motorcycle to stop, from the time the brake is first applied until the motorcycle actually stops. The distance travelled in this time is called the braking distance. The actual braking distance will depend on the speed, weight of the motorcycle, traction of the tires on the road surface, the quality of the brakes, road and weather conditions and rider skill.

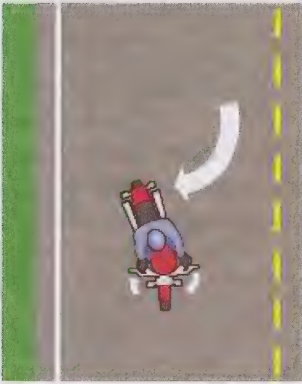
**Total stopping distance is the sum of perception distance, reaction distance and braking distance.**

Remember, when you increase your speed, you increase your stopping distance.

## Skids

Skids are the result of:

- rider input as to how a rider uses the throttle, clutch, brakes and handles road conditions
- turning too sharply or at too great a speed
- braking too hard, usually the rear wheel
- accelerating too quickly
- the combined effects of braking and turning on the amount of available traction.



These rider errors are made even worse by poor road conditions, such as slippery surfaces or loose sand or gravel. The best way out of a skid is **not to get into one**. Plan ahead so you will not be forced to make rapid adjustments. When you are not familiar with the road, drive slower. If a skid occurs, don't panic. If handled properly you may be able to get out of difficulty.



## Signaling

Do not confuse other drivers by signaling too early or too late. Remember to cancel the signal light if it does not turn off automatically. In some situations, use a hand signal as well as a turn signal light to make yourself more visible to drivers.



Left turn



Right turn

## Turns

### Low-speed steering for a turn

When riding at slow speeds generally less than 20 km/h, a motorcycle can be steered by turning the front wheel in the direction you want to go. This requires good balance and coordination between the clutch, throttle and rear brake. Practice doing this in a safe, traffic-free area. Use a light but firm grip on the handlebars for all turns.

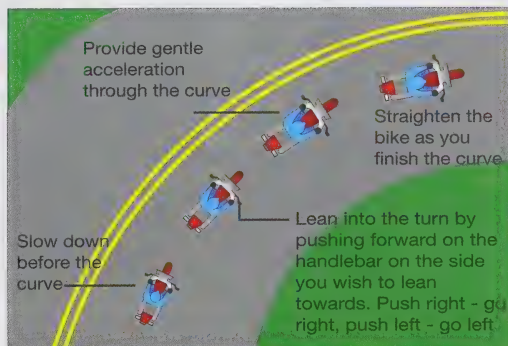
The application of a turn at an intersection is the same for a motorcycle as other vehicles. Since motorcyclists are more vulnerable at an intersection, extra caution and a controlled speed is required when entering, and riding through a turn.

### Counter-steering (push-steering) for a curve

When riding at speeds greater than 20 km/h in a curve, you must follow the lean of the motorcycle and will need to master the skill of counter-steering (push-steering). Counter-steering means, steering one way to send the bike in the opposite direction. In a curve at higher speeds, a motorcycle is pushed outward by centrifugal force. To counter this outward push, the motorcycle must lean inward. The greater the speed, the more the motorcycle must lean. To create this inward lean, push on the left handlebar to turn left and push on the right handlebar to turn right. Increasing the amount of push will increase the lean to allow a sharper and quicker change in direction. When the steering input is completed, simply release the pressure on the handlebar. If necessary, apply pressure on the opposite handlebar to assist in straightening the motorcycle.

### When travelling around a curve:

- Reduce speed when approaching a curve. Many motorcyclists, especially inexperienced ones, misjudge their speeds and attempt to corner too quickly. Slow down even more when road or weather conditions are poor.
- If braking or downshifting, do it before the curve.
- Rather than looking at one spot or immediately in front of your bike, turn your head and keep your eyes looking through the curve to where you want to go.
- Lean in the direction of the curve by counter-steering (push-steering).
- Avoid slowing down suddenly while in the curve. Sudden changes in speed while in a curve could cause the motorcycle to lose traction.
- Gently accelerate when leaving the curve.



## Parking

Park where it is safe and legal. Signs, curb markings and common sense will tell a rider where parking is permitted. Park as close as possible, at a 45-degree angle, to the curb with your rear wheel no more than 50 centimetres from the curb.

**Note:** Motorcycles are permitted to park at an angle where other vehicles are required to park parallel to the curb.

Your motorcycle may have a centre stand, a side stand or both. These are usually operated from the driver's left side.

When leaving your bike parked, make sure the front wheel is turned fully to the left, locked and the ignition key is removed.



# 4

## Hill parking

When parking on a hill, it is best to park facing uphill to avoid having the bike roll forward off the stand. If a curb is present, have the rear wheel make contact with the curb to prevent the bike from rolling back if using a side stand.

# Chapter 5

## Riding in Traffic





## Riding in Traffic

### Protect yourself! Be seen!

Many motorists do not expect, or see, motorcycles that share the same road with them. Although a collision may be the other motorist's fault, that won't help the motorcycle rider who is more likely to be injured. Riders need to take a tactical approach when riding in traffic.

## Road Position

Experienced riders know that they must constantly adjust and readjust their lane positions depending on changing traffic and road conditions.

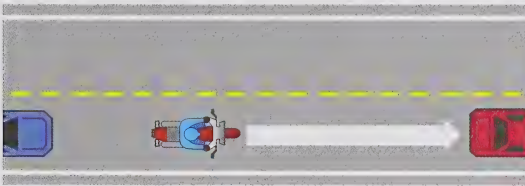
The left portion of a lane, where the left wheels of a vehicle would travel, is often recommended as the best place to ride on a two lane highway. On a four lane highway ride in the right portion of the lane so you can:

- be seen by oncoming vehicles more easily
- see oncoming vehicles more easily
- use the full lane you are entitled to, discouraging motorists from trying to share your lane or move into your lane
- see farther into, and be more easily seen from road junctions on the left
- avoid the slippery area that may be formed in the centre of the lane caused by leaks from other vehicles.

These points illustrate why it is best to use the left portion of the lane most of the time. However, there are many times when it is smarter to use the centre or right portion of the lane in order to expand your space cushion.

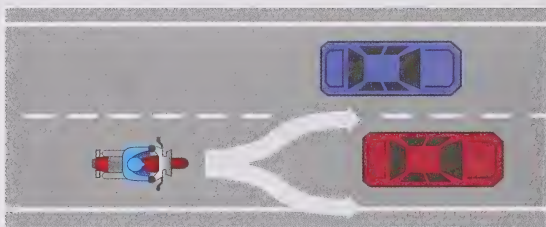
## Maintaining a space cushion

- Avoid remaining beside another moving vehicle or riding in the blind spot. The other driver might make a sudden shift into your lane. Be sure you are where the other driver has the best chance to see you.
- Keep your distance. The closer you follow another vehicle, the greater your risk. The best protection you can have is the distance between yourself and others. Distance provides three advantages. It allows:
  - 1) time to react and take action in order to avoid a collision
  - 2) you to choose an alternate path should something unexpected happen
  - 3) time to avoid an emergency situation, which could cause you to lose control or be hit from behind.
- When conditions are ideal, stay at least two seconds behind the vehicle ahead. At higher speeds, or when road conditions are less than ideal, stay even further behind.
- Motorcycles can usually stop in a shorter distance than other vehicles, so try to make room for the vehicles behind you if possible.



Maintain a two second following distance under ideal conditions.

- Use the mirror(s) to be aware of vehicles behind you.
- If a vehicle behind you is following too closely, increase your following distance from the vehicle ahead. This will allow you more space to stop gradually if necessary. It will also give the vehicle behind more time to stop, reducing the risk of a rear-end collision.
- A proper following distance allows the driver of oncoming vehicles more time to see you.
- Never assume that other drivers have seen you. Plan ahead and leave space for any emergency situation.
- Leave sufficient space when passing parked vehicle's in case a vehicle door is suddenly opened into your path.
- Avoid riding too close to the centre line or to the curb since this may encourage other drivers to attempt to pass you in your lane.
- The law does not allow you to ride between lanes (splitting a lane) or share a lane with other drivers.



Do not try to pass by squeezing past vehicles

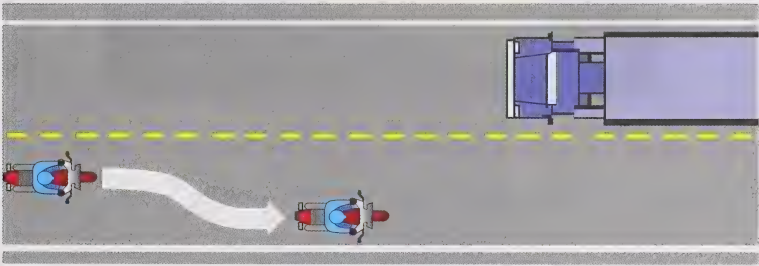
- Be prepared to sound your horn if necessary to make other drivers aware of your presence.

## Choosing the best lane position

One of the ways for a rider to be seen is to know and use the best road position for each situation. There is no single position that is always best.

Here are some things to consider when choosing your lane position.

- Before the crest of a hill, move to the centre or right lane position. You never know what might be coming over the hill.
- When riding in a curve, choose a position that will give the best view through the curve ahead.
- Avoid the turbulence or wind blast that is caused by large vehicles. When a large vehicle is approaching, move to the right lane position and keep a firm grip on the handlebar. Wait for a while after the vehicle has passed before returning to your previous lane position.

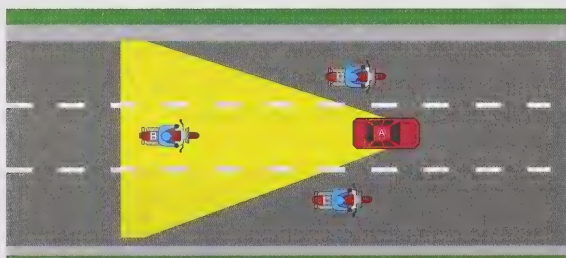


Move to the right of your lane. Be prepared for turbulence, wind blast or a change in wind conditions.

## Blind Spots

Even when the mirrors are properly adjusted, there are large areas behind and to the side of a rider that can not be seen in the mirrors. These are called blind spots. Always shoulder check to confirm that your blind spot is clear of traffic before changing lanes or passing.

When following another vehicle, stay out the other driver's blind spot as much as possible.

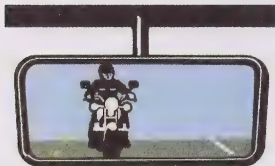


Vehicle A is using both of the outside mirrors and the inside rear view mirror.

Vehicle **A** can see motorcycle **B**.

Vehicle **A can not** see motorcycles **C and D**.

Ride where you can be seen clearly in the other vehicle's rear view mirror.



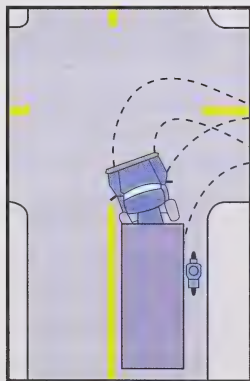
Stay well back to be seen better. This will also provide you with more time to react to the unexpected actions of others and to road hazards such as potholes and debris.



## Large Vehicles

It is very important to give large vehicles lots of space. There are large blind spots both behind and to the side of large vehicles. If you are following a large vehicle too closely, the driver will not be able to see you and your view of the road ahead is reduced. Following too closely increases your chances of a rear end collision. It also creates a hazardous situation by not allowing enough time to react to avoid any debris or potholes that may be in the lane.

The “right turn squeeze” could occur if a motorcycle rider is positioned between a large vehicle that is turning right and the curb. In this position, the driver of the large vehicle may not see the motorcycle rider. Stay out of this position. Choose a lane position that allows plenty of distance between you and the other vehicle.



Stay out of this position

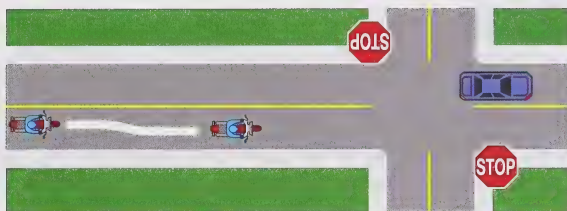
## Intersections

Many collisions involving motorcycles happen at intersections. Some causes of collisions at intersections are the result of:

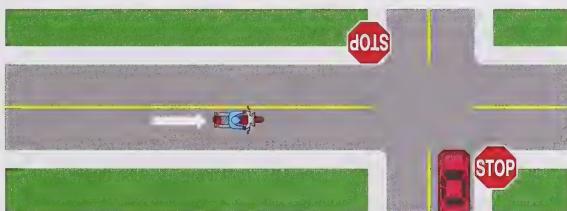
- oncoming vehicles making a left turn in front of a motorcycle
- vehicles entering from a cross street.

To avoid intersection collisions do the following.

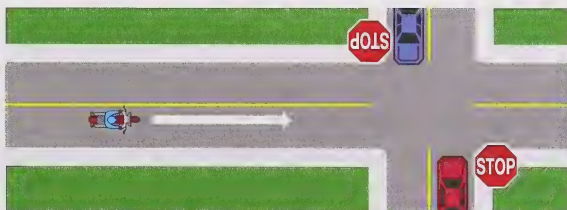
- Give yourself lots of room and ride in a lane or lane position that provides the best view of oncoming traffic. Have a space cushion around the motorcycle. Position yourself to see and be seen so you can take evasive action.
- When approaching the intersection, be prepared to apply the brakes if necessary.
- Always check your mirrors so that you are aware of the traffic behind you.
- Be prepared to change your lane or lane position to separate yourself from the greatest immediate hazard.
- If your motorcycle stalls in an intersection and cannot be started, walk it clear of all traffic and out of the intersection. If the motorcycle is equipped with emergency hazard lights, they should be activated.



Slow down and be ready to adjust your lane position. If an oncoming driver wants to turn left, slow down and move to the right portion of your lane, since this will increase the space between you and the oncoming vehicle. Never assume that the other driver has seen you.



If a vehicle is about to enter from the right side of the intersection, stay or move to the left portion of your lane and be prepared to stop. If a vehicle can enter your path, assume that it will.



If traffic is about to enter the intersection from either side of a road, stay in the left portion of the lane. Be prepared to take evasive action or stop.

## Changing Lanes

There is always some risk involved when changing lanes and you must do it safely. Avoid unnecessary lane changes. The few seconds that you think might be saved by constantly switching lanes is not worth the risks involved. Plan ahead so you are not forced into making sudden lane changes.

When changing lanes:

- make sure a lane change is permitted
- check traffic ahead and use your mirrors to check traffic behind you
- because mirrors have blind spots, always glance over your shoulder to the lane into which you will be moving
- give the proper signal
- look again and, if it is safe, make the lane change.

## Passing

Passing another vehicle may look easy but there is always risk involved. Do not pass unless it is necessary. Ask yourself, "What will I gain?" If it is necessary to pass, be sure you are passing in a legal passing zone and make sure it is safe.

Do not pass:

- a vehicle that has stopped for a pedestrian crossing the road
- near or at the crest of a hill
- just before or within an intersection
- at a railway crossing
- on a curve or any place where the view ahead is obstructed
- on the shoulder of the road
- when the traffic in front is slowing down unexpectedly.

When passing on a two-way highway:

- ride in the left portion of the lane at a safe following distance to increase your line of sight
- check ahead for oncoming traffic to ensure you have enough space to complete the pass safely
- check your mirrors
- shoulder check to the left to ensure that no one is attempting to pass you
- turn on your left signal light
- look ahead for oncoming traffic
- maintain a two second following distance until you are about to pass
- check ahead again to be sure you still have the space necessary to complete the pass safely
- pass the other vehicle, but remember that you are not permitted to exceed the speed limit
- after passing the vehicle, pull far enough ahead until you can see the front of the passed vehicle in your mirror. Check over your right shoulder, signal, and move back into your travel lane when it is safe to do so.
- passing on the right is permitted only when the road has two or more lanes going in the same direction, when the vehicle being overtaken is making a left turn, or if there is a traffic lane available for passing to the right.

### Passing parked vehicles

When passing parked vehicles, stay toward the left portion of your lane. This will help avoid problems caused by vehicle doors opening or people stepping out from between parked vehicles.

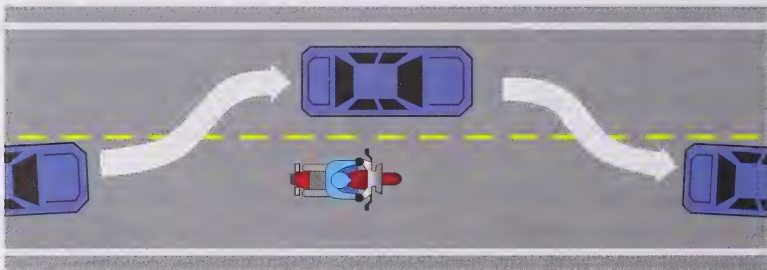
A bigger problem can occur when a driver pulls away from the curb without checking that the lane is clear of traffic. The driver may fail to see you even if a shoulder check is done. In either event, the driver may pull out and enter into your path so slow down or be prepared to change lanes.



## Being passed

Cooperate if someone is passing you by maintaining a constant speed and lane position. It is illegal and hazardous to speed up when being passed. Slow down, if necessary, to make sure the passing vehicle has room to move in safely.

Be careful when a large truck is coming toward you. It can block a strong crosswind or create a pull of its own, which may cause you to lose control.



Once the vehicle starts to pass, maintain your lane position, and be prepared to slow down and move to the right if necessary. Return to your normal lane position after the pass is completed.

## Chapter 6

### Carrying Passengers and Cargo



## Carrying Passengers and Cargo

A passenger is only permitted on a motorcycle that it is designed to carry an extra person. An inexperienced rider should avoid carrying a passenger. The extra weight will affect the way a motorcycle handles, balances, turns, speeds up and slows down.

**Note:** *A passenger should sit only on the seat designed for the extra person. The passenger's feet must be able to reach and remain on the foot pegs until told it is safe to get off by the operator of the motorcycle.*

Be sure the passenger knows what is expected before starting out.

- Both you and your passenger are required by law to wear an approved helmet.
- A passenger should have the same type of protective equipment, eye protection and clothing as you do.
- The passenger should sit as far forward as possible without crowding you.
- The passenger should hold on to your waist.
- Make sure the passenger understands the need to sit still, especially when you are manoeuvring the bike.
- Instruct the passenger to look over your shoulder to lean in the direction of a turn or curve.
- Remind the passenger never to get on or off the bike without checking with you first.
- Allow first-time passengers to get used to riding by taking them out at slow speeds in traffic-free and then light traffic situations.
- Avoid sudden acceleration that could potentially cause the passenger to come off the bike.

## Adjusting to carrying a passenger

To adjust for carrying a passenger, do the following:

- Operate at a slower speed, particularly on corners, curves or bumps.
- Begin to slow down earlier than usual when approaching a stop.
- Allow a greater following distance.
- Look for large gaps in traffic whenever crossing, entering or merging with traffic.
- Before making any sudden moves, warn the passenger so that there are no surprises.
- Adjust the suspension of the motorcycle as outlined in your owner's manual.

## Carrying a passenger

Sudden movements by the passenger will make the bike difficult to control. The passenger should always move when the operator does. This includes leaning forward when the bike speeds up, leaning back when slowing and leaning to the side when turning.

Make sure the bike is built for carrying a passenger. Check the owner's manual to see if the air pressure in the tires needs adjustment. The passenger should sit as far forward as possible without crowding the operator. Make sure the passenger knows that it is necessary to sit still, and hold on to the driver's waist and/or any of the bike's hand grips.

Both of the passenger's feet should stay on the foot pegs, even when stopped. Hot pipes and mufflers are a major hazard for passengers.

To allow for the extra weight of the passenger, adjust the shock absorbers and check the slack in the drive chain.





## Carrying cargo

Most motorcycles are not designed to carry much cargo. Small loads can be carried safely if positioned and fastened properly.

- Keep the load as low as practical.
- Fasten loads securely or put them in saddlebags.
- Place the load over or in front of the rear axle. Mounting loads behind the rear axle can affect control of the motorcycle.
- Tank bag loads should be kept forward, but use caution when loading hard or sharp objects. Make sure the tank bags do not interfere with the handlebars or controls.
- Load saddlebags with about the same weight on each side. An uneven load could affect the motorcycle's balance.
- Fasten the load securely with elastic cords (bungee cords or nets). Elastic cords with more than one attachment point per side are more secure. Rope tends to stretch and knots come loose, permitting the load to shift or fall.
- Stop and check the load regularly to make sure it has not worked loose or moved.
- Never attach cargo to the front fender or handlebars.



Notes:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

A photograph of a winding asphalt road through a dense forest. The road curves from the bottom left towards the center. Tall, thin trees line the road, and sunlight filters through the canopy. A white coordinate system is overlaid on the left side of the image, with a vertical line and a horizontal line intersecting. The vertical line has an upward-pointing arrow at the top and a downward-pointing arrow at the bottom. The horizontal line has a leftward-pointing arrow at the left and a rightward-pointing arrow at the right.

## Chapter 7

### Group Riding

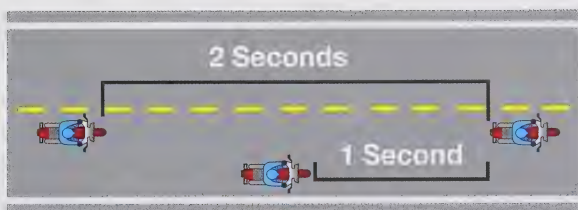
## Group Riding

Limit the size of your riding group. The larger the group, the more likely it is that it may be broken up when riding in an urban area. An experienced rider should be in the lead position with the inexperienced rider behind the leader.

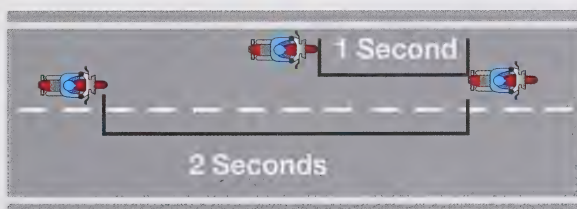
### Staggered formation

It is illegal to ride side by side in the same lane. If riding to the side of another bike, but in a separate lane, may get in the way of other traffic and limit your ability to move in an emergency.

The best way to keep the group together, and maintain an adequate space cushion, is to ride in a staggered formation. On a two lane highway, the leader should ride in the left lane position, while the second rider stays one second behind in the right lane position. A third rider maintains the left position two seconds behind the leader. A fourth rider would keep a two second distance behind the second rider. This formation gives each rider a safe distance from others ahead, behind and to the sides.



For a four lane highway, the lead rider should ride in the right lane position while the second rider stays one second behind in the left lane position. A third rider maintains the right position two seconds behind the leader and so on for the other riders.



Plan ahead. Make sure everyone knows the route and understands the group riding signals for fueling, stopping, rest periods and emergency road hazards.

Let the last bike set the pace. No one should have to race to keep up. Use your mirrors to keep an eye on the bike behind you.



### Passing in formation

Riders who are riding in a staggered formation on a two lane highway should pass one at a time. The lead rider should pass when it is safe and legal. After passing safely, the leader should return to the right lane position and continue riding at a speed that will allow room for the next rider. After the first rider completes the pass, the second rider should move into position and watch for a safe chance to pass. Use this procedure for the remaining members of the group.

Each rider should wait until there is enough room ahead of the vehicle being passed to allow the rider to move into the same lane position held before the pass. This is safer and less confusing than crowding together in front of the passed vehicle.

### Single-file formation

It is best to move into a single-file formation when approaching sharp curves, turns, bridges or narrow roadways. Remember the two second following distance rule.

## Chapter 8

### Riding Under Challenging Conditions

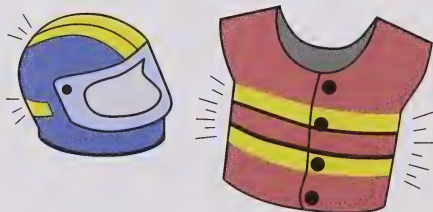


## Riding Under Challenging Conditions

### Riding after dark

There is a greater risk of being in a collision when riding at night. The following are tips for safe night riding.

- Slow down and ride with extra caution. This will increase your ability to avoid a hazard. Evaluate your ability to see and adjust your speed accordingly.
- Distances are harder to judge after dark than during the day. Your eyes rely on the contrast of shadows and light to determine how far away objects are. These contrasts may be missing or distorted under artificial lights after dark. Continue to evaluate your distance from vehicles ahead and adjust your speed accordingly.
- Try to look past the vehicle ahead. The headlights of the vehicle ahead can extend your view of the road in front.
- Tail-lights bouncing up and down can alert you to bumps or a rough road ahead.
- On dark roads, use your high beam headlights. Get all the light you can. Remember to use your low beam headlights when you are within 150 metres behind any vehicle and within 300 metres from any oncoming vehicle.
- Be conspicuous. Wear reflective materials when riding after dark. A reflective vest is ideal.



Wear bright reflective tape

- Keep your goggles, face shield and windshield clean. If they are badly scratched, replace them. Use only clear untinted lenses at night.
- Be alert for animals that may be on or near the road. Scan the roadside far ahead and look for movement or the reflection of an animal's eyes. Be especially watchful for animals at dawn and dusk.
- If passing is necessary, use extra caution.
- Do not overdrive your headlight(s). Driving within the range of your headlights will help you to respond in time for any obstruction that may appear.
- Stay alert and remember that everything is harder to see after dark. If you are becoming tired, stop and rest.

## Riding in Poor Weather

Difficult weather conditions can affect a rider adversely with regards to visibility, temperature extremes, wind and reduced traction. Think twice before riding in any poor weather.

### Visibility

- When faced with reduced visibility due to conditions such as rain, fog, smoke or dust, take the same precautions you would for riding after dark. Poor weather after dark can make poor visibility worse, so use extra caution.

### Temperature extremes

- Low temperatures can result in hypothermia, when the body loses internal heat due to cold or wind chill conditions.
- High temperatures can result in dehydration and heat exhaustion.

## Wind

- Strong or gusty winds can affect how a motorcycle handles and may make it difficult or impossible to maintain a proper lane position.

## Traction

- Traction is reduced by moisture on the road surface. Pavement is particularly slippery just after it starts to rain and before the surface oil gets washed to the side of the road.
- Wet pavement, gravel roads, sand, mud, snow, ice, painted lane markings and steel surfaces such as utility hole covers should be avoided if at all possible. To ride safely on slippery surfaces do the following:
  - Slow down before getting to a slippery surface to lessen the chances of skidding. Reduce your speed before entering wet curves.
  - Sudden change in speed or direction can cause a skid. Be smooth when speeding up, shifting gears, turning or braking. The front brake is still effective even when the motorcycle is on slippery surfaces. Squeeze the brake lever gradually to avoid locking the front wheel. Remember to use gentle pressure on the rear brake. Try to avoid quick stops.
- Dirt and gravel collect along the sides of the road, especially on curves and ramps leading to and from highways. Be aware of what is on the edge of the road, especially when making sharp turns and when entering or exiting highways.
- Cautious riders stay clear of roads that are covered with ice or snow. Patches of ice tend to form in low or shaded areas and on bridges and overpasses. Ride on the least slippery portion of the lane and reduce speed. If a slippery surface can not be avoided, keep your motorcycle upright and proceed **slowly**.





Use your low beam headlight when riding through fog, smoke, snow or anything else in the air. Do not use your high beam headlight as it will reduce your visibility in these conditions.

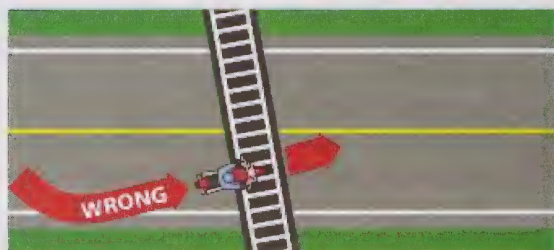
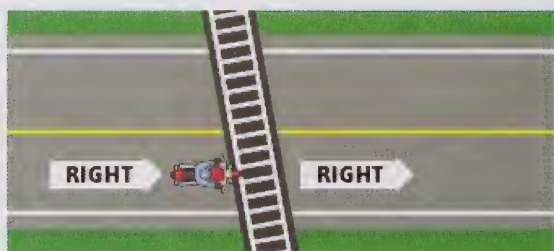
### Road conditions:

Traction may also be reduced by:

- Fluid leaks from other vehicles that build up in the centre of the road. You should avoid this danger by driving in the track made by the left tires of other vehicles. Use extreme care and good judgement.
- Bridge decks made of metal gratings. A motorcycle will vibrate and wander slightly as it crosses the grating. It is usually not dangerous if you slow down in advance and maintain a constant speed.
- Road resurfacing. As a result of asphalt and surface upgrading, a road may have grooves cut into it. This will have similar effects to metal bridge decks. Slow down in advance and maintain a constant speed.
- Railroad tracks that are at an angle to the highway. Use caution when crossing the tracks, and cross them by proceeding straight ahead.



## Crossing railroad tracks



## Chapter 9

### Emergencies When Riding



## Emergencies When Riding

### Sudden stops

**If you have to stop quickly do the following:**

- Keep the bike upright and in a straight line, with the handlebars straight. If you are forced to brake when the front wheel is turned, do it gradually. In an emergency, square the handlebars and apply threshold braking.
- Apply each brake without skidding either tire. If a wheel locks and skids, it may slide to one side, making the bike hard to control.
- In an emergency situation, use both brakes to the maximum.
- Remember, if you take your feet off the pegs for balance, only your front brake remains on.
- If your front wheel locks up, release it immediately.

Weight shifts forward when you brake, and the front brake is especially powerful. Use it well, but respect it. About 70% of effective braking capacity is in the front brake. Weight shift can cause the braking force to increase to nearly 100% with threshold braking on the front wheel.

You need practice to know how hard you can brake without locking the wheels and skidding.

## Avoiding Obstacles

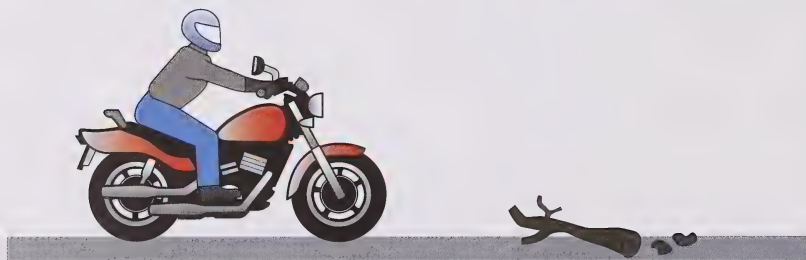


If an object appears suddenly in your path, you may not be able to stop in time. The only way to avoid a crash might be to turn quickly or to swerve around it. A swerve is any sudden change in direction. Check your mirror(s), and if someone is close behind, try to keep moving so that you will not be hit from behind. Use the counter-steering method (refer to chapter four) to swerve around the obstacle. **If braking is required, do so before or after but never while swerving.** Remember that a sudden change in throttle use can also cause a loss of control.

## Riding over obstacles

Sometimes a rider may have no choice but to ride over an object that is seen too late to steer around. In this type of situation, follow these basic rules.

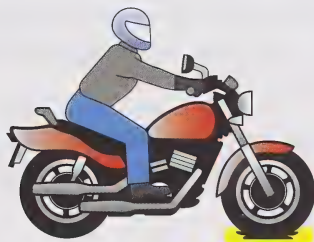
- Brake before reaching to the object if possible.
- Maintain a relaxed but firm grip on the handlebars.
- Keep as straight a course as possible.
- Stand slightly on the foot pegs.
- Shift your weight back.
- Accelerate slightly as the front wheel reaches the object.
- After going over the object, resume your normal seating position and speed.
- After a hard impact, pull off the road and check the tires and rims for damage before riding any further.



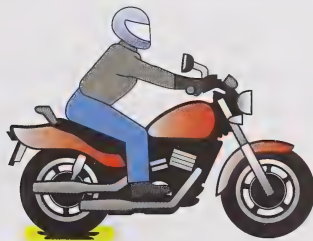


## Tire Blowouts

If a tire blows out, you will need to react quickly to keep balanced. A tire blowout is not always heard, but a rider should be able to detect a flat tire by the way the motorcycle reacts. A front tire blowout is more difficult to control since it affects steering. If the front wheel goes flat, the steering will feel heavy. If the rear tire goes flat, the back of the bike will tend to sway from side to side.



If the front tire blows, hold the handlebars firmly and try to steer straight. Shift your weight to the rear of the bike. Do not brake. Ease off the throttle. When you have slowed enough, move off the travelled portion of the roadway and use the rear brake to come to a stop.



If the rear tire blows, maintain your position on the bike. Do not brake. Ease off the throttle instead. When you have slowed enough, move off the travelled portion of the road and use the front brake carefully to come to a stop.

## Animals

Animals are unpredictable. If an animal is near the road, be ready to take evasive action or stop if necessary. Try to do everything possible to avoid hitting an animal. If you have no other choice, remember that hitting something small is less dangerous than hitting something much larger, like a vehicle.

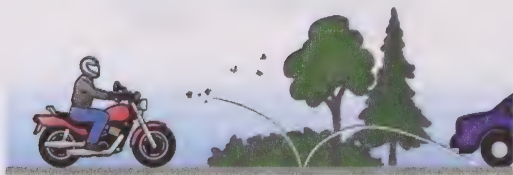
Motorcycles seem to attract dogs. If a dog chases your motorcycle, you should slow down, and downshift. Then, as the dog approaches, accelerate away. Do not attempt to kick at the dog since this may affect your ability to keep control of the motorcycle.



**When on a highway, a rider should use extra caution at dusk and dawn when larger animals are more active.**

## Flying Objects

A motorcycle rider may be struck by insects, stones or debris thrown up by other vehicles. If you are not wearing any face protection, this can cause obscured vision, severe pain and temporary vision loss. If wearing face protection, it may get smeared or cracked, making it difficult to see. Whatever happens, concentrate on controlling the bike and staying on the road. When it is safe, pull off the travelled portion of the road and fix the problem. Never try to fix the problem while moving in traffic. **A motorcycle rider should always have good eye and face protection.**



## Mechanical Problems

A motorcycle rider should practice preventive maintenance to avoid mechanical emergencies. Most mechanical problems can be avoided by routine maintenance.

### Stuck throttle

A stuck throttle requires quick thinking.

- If the throttle is stuck fully open, use the engine stop switch and clutch together, followed by the brakes.
- If the throttle is stuck at a normal operating speed, look for a safe place to stop. Signal your intention, and move to the safe place before using your engine stop switch and clutch together. Then apply your brakes.
- Do not resume riding until the problem has been corrected.

### Wobble

A “wobble” occurs when the front wheel and handlebars suddenly start to shake from side to side. Typical causes of a wobble are:

- unequal tire pressure
- bent or misaligned wheels
- accelerating
- holding onto the handlebars too tightly
- loose spokes
- improperly mounted windshield
- poor load distribution
- riding too fast for the design of the bike.

If a wobble is experienced:

- Do not attempt to use your brakes.
- **Gradually** close the throttle.
- Wait until the motorcycle has slowed down sufficiently, at which time the wobble will disappear. The brakes may now be applied as required.
- Pull off the travelled portion of the road as soon as possible.
- Determine if the problem can be corrected or not. If this is not possible, proceed at a reduced speed and have the motorcycle checked by a qualified person.

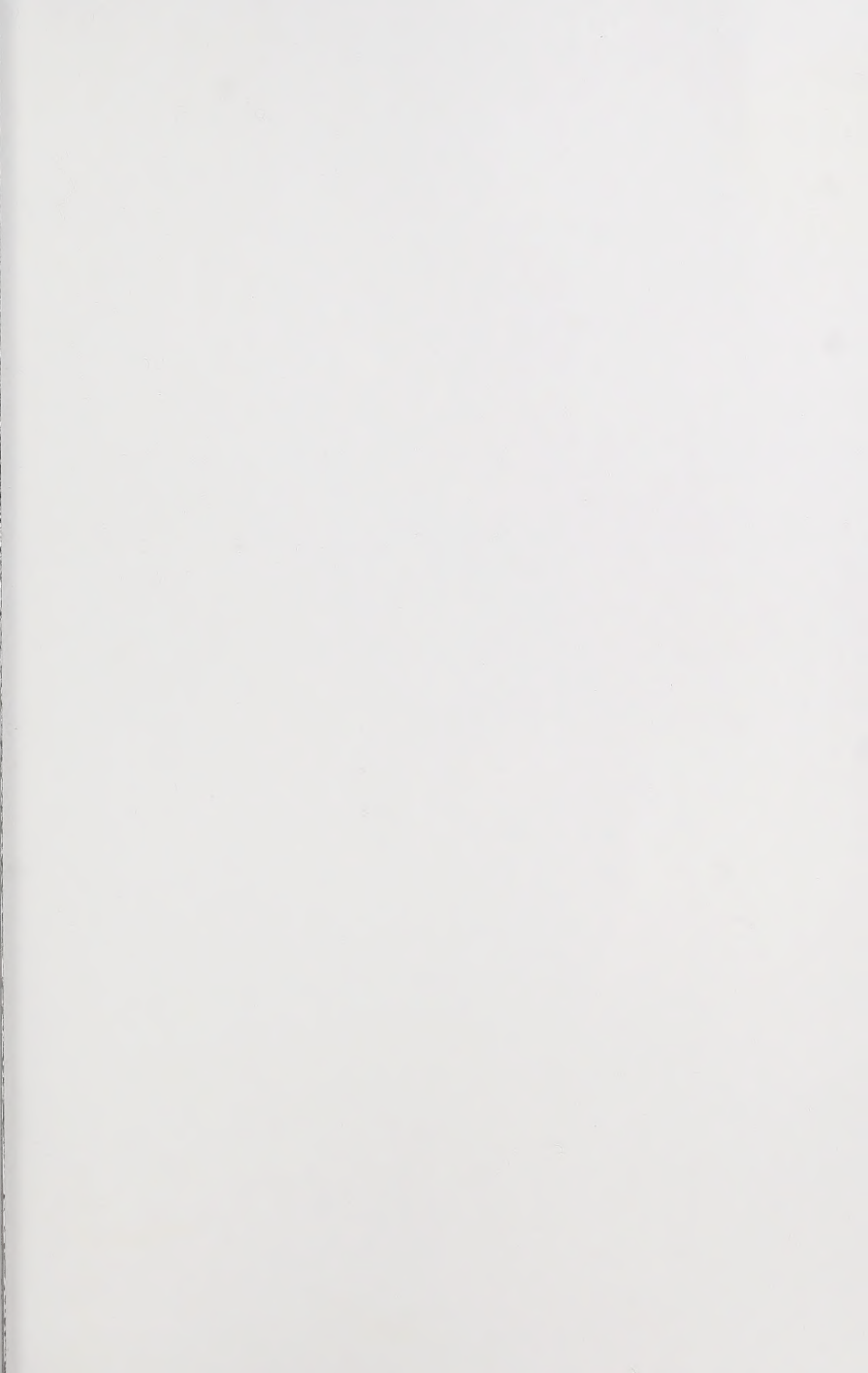
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**Notes:**

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